THE VETERINARY RECORD

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"Professional Conduct."

The members of all callings may be divided into good, bad, and middling. There are good and bad veterinary surgeons, good and bad stud-grooms, good and bad clergymen. We usually note most readily the extremes in our own calling, whilst want of knowledge prevents us from comparing our faults with those of other trades and professions.

It is many years since we heard the owner of a shoeing-forge in the West End of London assert that coachmen were the most dishonest class of men he knew. An ironmonger in the company quietly observed "Ah, you should have to do with man-cooks." Everyone in Britain fancies he can speak with authority about horses and horsey men. The majority assert with absolute confidence that horse-dealers are all liars and thieves. This is a gross libel, and the outcome of utter ignorance. An old gentleman of large experience and unimpeachable veracity once told us—"I had twenty years close relations with horses and believed that dealers were the biggest rogues in the world. I have since had twenty years connection with shipping and I now believe horse-dealers are comparative angels."

The fact is there are good and bad in all callings, and it is unfair to blacken a whole class because it contains some black sheep. When we speak of "professional conduct" it should be understood that we refer to offences not included in any list of crimes and misdemeanours which the law of the country would condemn. To class "tipping" as an offence is exaggeration and may even reach the level of cant. Everyone gives tips to railway porters and waiters, why not to other men to whom we are beholden for some little service or assistance? Far beyond what is understood by "tipping" is the action of "buying work" by such sums as guineas. When the owner of a forge pays a guinea for the privilege of shoeing four or five horses for a season there is something worse in the background. He intends to have his guinea back, and not by honest work. That many veterinary owners of shoeing-forges deliberately arrange with the coachman to shoe the horses every five weeks and charge for them every three we do not believe. There are well known farriers shops in London where this is done, and the excuse offered by the owners is that if they did not do it they would lose the work and the horse-owner would give them no aid or assistance in preventing it. The practice is of course "conspiracy and fraud," which on conviction would probably be followed by imprisonment. Crime of this kind is not to be discussed as "professional conduct" and is entirely beyond the notice of our Council.

The question of fees and charges is again one which the collective body cannot interfere with. If one man can command a guinea where another gets half-a-crown we can only envy the better paid and hope that his services are worth the fee. When a client who has been paying a guinea finds that he can obtain as good service for half-a-crown no one can blame him for employing the cheaper man. So far we all go. But when the cheap man goes out of his way to undersell his rival in business we arrive at a stage when very different views obtain. We cannot fix a standard of charges. Even if every veterinary practitioner possessed exactly the same talents, experience and skill, a uniform charge would not be just. The same operation on a millionaire's dog and a costermonger's donkey may not be estimated at the same value. The practitioner who pays £100 a year rent for a surgery may well charge more than he who pays £10. The diversity of clients, the conditions of place, the value of patients, the skill and experience of practitioners all conduce to inevitable variation in fees and charges.

Quite another question is the public offering of medicine and attendance at reduced prices. Here the bye-law as to advertising comes in, and very justly objects to the circular or paragraph which entices by an assertion of cheapness or superiority. If this were allowed degradation of the collective body would follow, because the least modest and most untruthful would be able to bid the highest. It would be impossible to edit all advertisements and to verify the claims made. The only other course open is to rigidly prohibit them. No doubt some of the worst forms of advertisement are the oblique and indirect, but they are most difficult to check, and no rule can be so worded as to provide for the ingenuity of men who are not amenable to the dictates of conscience or the suggestions of good taste. Through mud to dignity is perhaps the shortest cut, but it is seldom a man travels this road without being so bespattered that the attainment of his object brings its own punishment.

The correspondence we have published lately is a good sign of our cleanliness. Let all dirty practices be exposed. "Tell the truth and shame the devil," but bear in mind that an occasional lapse is not an unpardonable sin, and that one weak brother does not discredit the whole family. Above all let us avoid the pharisaic action described in Hudibras and see that we do not—

> "Compound for sins we are inclined to
> By damning those we have no mind to."

The "National" at Reading.

Those practitioners who were at Yarmouth last year will be sure to attend at Reading next month when they know that the function of the second day is to rival the memorable voyage over the Broads. Those who were not at Yarmouth ought to attend at Reading that they may experience the pleasures of a veterinary gathering under the best auspices and the most beautiful surroundings. We expect a record meeting on August 11th and 12th.

CASES AND ARTICLES.

HERMAPHRODITE—CASTRATION.

By R. A. Stock, F.R.C.V.S., Lewes.

In the early part of the present year a client of mine purchased (in the dark) a three-year-old chestnut colt from a dealer without at the time discovering anything peculiar about the animal. It was turned out and subsequently broken in to work, and then the new owner, much to his astonishment and chagrin, found out that he had indeed purchased a singular specimen of the *genus equi*. The colt worked freely and well, but was exceedingly vicious and troublesome, quite dangerous to men and other horses, and at times behaved like a mad horse. The owner had already given me a description of him, and at last I was called in to make an examination.

On my arrival I was cautioned about touching him and soon found that such a caution was highly necessary. He was vicious in the extreme. Having had him led out of the stable I observed that instead of a sheath, penis, and scrotum there was nothing of the kind, but in their place two large well formed teats, and between the two teats there was a circular piece of light coloured skin which was soft and moist and secreted the soap-like substance usually found in the sheath. Inspecting the animal from behind, the tail being drawn aside, a most singular arrangement was seen. From the anus for about five inches downwards was a raphe which terminated in an opening from which protruded either a penis or large clitoris. The owner and men asserted that when excited the penis became very much enlarged and shot out at least eight inches, together with testes, the loose skin at the lower part forming a scrotum. The animal had to be shot or castrated, so believing the man as to the occasional appearance of the testes I decided to try the latter operation.

A few days later and on my infirmary tan bed he was cast with ordinary hobbles on the near side, and chloroform administered. I thoroughly examined the penis. It could be withdrawn about eight inches and a catheter passed into the urethral canal 13 inches. From the canal exuded a white glairy fluid and the opening into the canal was not round but pyriform With my right hand and arm I explored the rectum emptying it of its contents, endeavouring by every means to extrude the testicles, but after a long and diligent manipulation through its floor and roof I could discover nothing of the kind. The horse was turned on his back and then with my right arm in the rectum, my left round the thigh manipulating the parts between the thighs, no sign of testicles could be seen or felt. After about 20 minutes of this work with my left hand I felt a something, and stuck to it, gradually forcing it in a backward direction until my right hand formed a stop, Withdrawing my right hand very carefully I cut down on the contents of the left hand. At first a small incision, the straining of the animal at this time being very forcible. Having enlarged the opening a perfectly formed testicle escaped; it was of small size, and attached to the epididymis was another, very imperfectly formed and elongated to the extent of six inches. The whole was removed with the ecraseur and the animal soon recovered. He is now at work and very much quieter, but is regarded as an object of curiosity in his neighbourhood.

CEREBRAL TUMOUR.

By H. Walpole, M.R.C.V.S.L., Assistant to W. B. Blunsom, Esq., F.R.C.V.S., Cirencester.

The following case lately came under notice and may possibly be of interest.

Bay horse, aged, was purchased from a farmer by a baker four months ago. During that period he had been worked in a bread van. The owner informed us that a fortnight after purchase the animal had an attack of mad staggers in the stable, falling over backwards. At varying periods attacks occurred either in the stable on while the animal was at work. On Sunday, July 11th, at 11 a.m., an urgent message came that the horse was supposed to be dying in a field. He had been turned out the previous evening apparently in good health. On examination the horse was found in a comatose state, eyes amaurotic, tongue dependent, dark and flaccid, the visible mucous membranes of a purple hue, and there was no perceptible pulse. No time was lost in abstracting a fair amount of blood and administering a stimulant. He gradually recovered consciousness, and after some time tried to rise, but only to pitch forward heavily on to his head. Shortly afterwards a strong purgative was given, and chloral hydrate ʒi. in solution. He gradually became more violent and made repeated ineffectual attempts to rise, but each time fell forward with considerable force. An injection of morphia was then given, but had no quietening effect. At

1.30 p.m. he died in convulsions. On post-mortem all the organs with the exception of the brain were found to be healthy. In connection with the right hemisphere of the cerebrum a greyish coloured body was found. It was about the size of a small hen's egg, oval in shape and weighed 2oz. 1dr. The consistence was about the same as that of a kidney. Two cysts, filled with a yellow gelatinous fluid were found in connection with the anterior portion of the cerebellum. A reddish serous looking fluid was found between the dura mater and arachnoid membrane in much greater quantity than the normal arachnoid fluid. The blood vessels of the brain were much congested, and the whole organ was very dark in colour.

ABSTRACTS FROM FOREIGN JOURNALS.

EUCAINE A SUBSTITUTE FOR COCAINE.—By W. MEYER, Veterinary Surgeon.

About a year ago I became acquainted through a dentist with eucaine and resolved to try it in veterinary practice.

Eucaine hydrochlorate is a fine white powder easily soluble 1 in 10 of warm water. When a 10 per cent. solution is placed on the tongue there is at first a peculiar burning sensation, the tongue becomes furry and finally loses sensibility. I soon had occasion to substitute eucaine for cocaine in cases in which I had formerly used cocaine. Results were so universally good that I have quite laid cocaine on one side, for the new preparation is considerably cheaper (about half as dear) and is quite as efficacious in the same degree of concentration. The following are some of the cases in which I used it.

In August of last year I removed two tumours from a horse's breast the size of a hazel nut. After thorough disinfection of the skin over each swelling I injected 5 c.cm. of a 10 per cent. solution of eucaine dispersed this solution over and around the swellings by massage, cut into the skin, cut out the tumour which I had seized with a hook, and sutured the edges of the wound without the horse moving.

The second case involved the removal of a tumour from the sclerotic and conjunctiva under the right upper eyelid of a cow. The swelling protruded from between the eyelids and the eyeball could only be seen if one pushed back the tumour. I here used a 10 per cent. solution of eucaine of which I injected 5 c.cm. into the swelling after I had irrigated the eye with 5 c.cm. of the solution. During the injection the animal tried to withdraw. After about two minutes I could cut away without the cow taking any notice. During the cutting away the patient was only controlled by one man, and it was not at all hard for him to keep the head of the animal in the necessary position.

Thirdly, I removed a tumour as large as a child's head from a horse's breast. As I had a large growth to deal with here I used 20 c.cm. of a 10 per cent. solution of eucaine. I injected 10 c.cm. under the skin over the swelling and 10 c.cm. directly into the tumour. The horse took no notice of the operation although I was obliged to cut about 10 cm. deep. As great hæmorrhage ensued I tamponed and pinned up the wound. On the following day I removed the sutures when the horse was very restive in spite of the twitch. If after these trials no definite opinion concerning eucaine can be come to, yet by imparting the results to the Colleges I hope they will experiment further. It has been only used in the smaller operations, and by its use in these on valuable animals throwing and its dangers have been averted. By use of anæsthetics operation is much safer and quieter.

I did not notice the burning of the conjunctival sac and the removal of the corneal epithelium mentioned by Dr. Vollert as occurring after the use of eucaine in eye treatment in the human subject, consequently I shall not be deterred by the mention of this from still using eucaine when necessary.—*Berliner Thierarztliche Wochenschrift.*

Trans. by G. MAYALL, M.R.C.V.S.

VETERINARY SOCIETIES.

LINCOLNSHIRE V.M.A.

(Meeting at Peterborough on 29th June. *See p.* 36).

PRESIDENTIAL ADDRESS.

By F. W. WRAGG, F.R.C.V.S.

Gentlemen, I return you my hearty thanks for the honour you have conferred by electing me President of the Lincolnshire Veterinary Medical Association. I can assure you it gives me great pleasure to occupy this position, and I shall endeavour, during my term of office, to uphold the reputation the Association has enjoyed for so many years.

My thanks are also due to the members for the loyal support they gave me at the recent election for members of Council, and I take this public opportunity of expressing my sincere gratitude to every member of the profession who recorded a vote in my favour, whereby I was returned at the head of the poll, a coveted distinction which I scarcely think I deserve.

The election this year was tame compared to that of 1896, when there were circulars without number, and a special number of a professional journal scattered broadcast throughout the profession, most of them indicating you should vote for certain candidates, and those alone. Fortunately all were not led away by tatics which would be no credit at an election of vestrymen. I regret the president for the year, one of the candidates for re-election, did not receive that support to which he was entitled, for the indefatigable manner he worked during his occupancy of the chair. Moreover, one candidate, a past president, was unseated, who not only during the time he has been a member of Council has done splendid work, but is always ready to travel any distance, read papers, give the benefit of his experience and make the meetings of our veterinary medical associations popular and instructive, mostly bringing out a good discussion. It is by this stimulus and interchange of ideas, that every man is roused to a better observance of his cases, so essential to make a scientific and practical veterinary surgeon. The election of the governing body of a great profession should be conducted with dignity, and should be free from that taint which is so often found in municipal and other elections.

This year an unfortunate mistake occurred in the voting papers. A paragraph stated you could vote for

eleven candidates, whereas it should have been only eight. Directly the error was discovered, a circular was issued correcting it, and, as the president pointed out in his opening address, the only harm it caused was to entail a greater amount of work on the scrutineers, who thoroughly tested and analysed every voting paper. In no case was the position of a candidate altered in the slightest degree by the mistake.

The last annual meeting was the quietest I ever remember, and I believe I have attended over thirty. It suggests that the profession are so satisfied with the work of the Council during the past twelve months that they thought it needless to attend for the purpose of criticising the report. Possibly the coincidence of our annual meeting and Derby day kept some away, nevertheless I regret the small attendance, and should be sorry to think the falling off in numbers was due to any lack of interest taken in the profession.

The admission of ladies to the examination for the diploma is a matter that has lately come to the front. The majority of the Council acting under legal advice, which was to the effect that our Charter and bye-laws all pointed to the fact that the candidate should be of the male sex, refused to allow this lady to go up for her first examination. This decision is about to be contested in a court of law in Edinburgh, and as the matter is *sub judice* it would not be politic to discuss it, but I must remark that I do not think ours a profession that a British lady should embark in, nor am I able to prophesy whether or no the verdict will be foreshadowed by the decision of Cambridge University. There was copied in *The Globe* last week the first verse of a poem entitled the "Vindication of Man," it appeared in the Jubilee number of *The Isis* and reads thus:

> "From Cambridge Town on joyous wires
> O'er Afric's sunny strand,
> O'er Swiss Cantons, or English Shires,
> Spitzbergen, Baffinsland,
> The message flies, they laugh who win,
> And Cambridge laughs to see,
> There are no female wranglers in
> The year of Jubilee."

The profession have agitated with much vigour to obtain a clause in the Public Health (Scotland) Bill sanctioning the appointment of veterinary surgeons as meat inspectors and inspectors of dairies; it is quite time these duties should be removed from the class of men to whom they are usually given. It is true that in some cases medical officers of health are called in to decide the question, whether meat is fit for human consumption or whether a dairy is a healthy place for the storing of cows, but I maintain that the veterinary surgeon, and he alone, is by education and training the only officer who should be entrusted with the work to ensure it being performed in a proper and satisfactory manner. I trust we shall be rewarded by a satisfactory settlement of this question. I am unable to say at present how the Bill has progressed, for although I have watched the daily papers, if anything has been published it has certainly escaped me. I must tell you that there is much to thank our President for in the pains and trouble he has taken to bring about a successful result. Our ex-president, Mr. Simpson, has also done good work, both during his year of office and since. Other members of Council have also been indefatigable in their exertions to render every assistance, as also have other members of our profession. Judging from sundry items noticed in the solicitor's account for this quarter, I feel sure that no effort has been spared to get a proper recognition of the veterinary profession in this Parliamentary statute.

The use of mallein as a diagnostic agent in detecting latent glanders is one of the grandest discoveries in the veterinary scientific world, and the experience of those veterinary surgeons who have employed it, points to the fact that it is almost an infallible agent in diagnosing this disease. I have used it, and am constantly using it, and although I have injected some hundreds of horses, in only one case did it fail. It may be of some interest if I say that this animal working by the side of a horse found to be glandered, shortly after developed a discharge from the nose, reacted to mallein, and yet after a most careful post-mortem examination I failed to detect the lesions of glanders in the lungs. Perhaps I have not any business to blame the agent. I have little doubt the disease existed, but the failure to discover it was due to myself. I do not believe there is the least possible risk in using mallein on a healthy horse. I have had the opportunity of watching those that have been injected, some of them for as long a period as three years, a few dying from other causes. I have had the opportunity of examining post-mortem, and in no case was there the least indication of the disease of glanders visible.

The London County Council, and it is in their district that the disease is most prevalent, have advanced a step towards compensating horse owners for loss. Where signs of the disease are apparent then £2 is paid as heretofore, but when the existence of the disease is made evident by the reaction of mallein, then one-fourth of the value allowed by the Order is given. Owners are thus encouraged to use mallein and slaughter when reaction occurs. Some members of the profession maintain that horses affected with latent glanders, although they have reacted to mallein, might still be kept at work; their lungs possibly having only slight glanders lesions. To this opinion I am totally opposed, for I am convinced that these cases are quite as much a centre of infection, and as capable of transmitting the disease as animals showing the worst symptoms. No, I would have mallein very freely used, and every case responding slaughtered, by this means we should have a chance of reducing the number of cases to a minimum, and eventually stamping out the malady altogether.

I have no reason to doubt but that tuberculin is quite as useful a diagnostic agent in tuberculosis, as mallein is in glanders, but as I have no practical knowledge of its use, I am unable to discuss its reliability or utility.

The Muzzling Order for Dogs, which has caused so much controversy, is, I feel, the best and most useful measure to diminish the disease of rabies, although it has been most strongly opposed by, I believe I am right in saying, a majority of the community, which majority are scarcely competent to form an opinion. I think the profession, with perhaps a few exceptions, agree to the provisions of the order. Still if it could be made universal throughout the whole of the British Isles, I believe it would have their more hearty approval, doubtless the order that will be enforced by the Board of Agriculture in September will greatly assist in the prevention of the disease. I refer to that relating to the importation of dogs. I believe the owner will have to give notice when he imports a dog, his name and address will be taken, the destination declared, and an undertaking given that he will properly look after the animal, and isolate if required upon landing, a licence will be given; then if what some call the objectionable muzzle be applied, we stand a good chance of eradicating this dreadful disease, which has often caused death in the human subject.

The Board of Agriculture have decided that the dog shall wear a wire muzzle, and rightly so too. What is the use of a leather one? It is as often round the neck as in its proper place. I maintain that a properly fitting wire muzzle is more humane and certainly more likely to prevent a rabid dog biting than one so easily got rid of. People buy a muzzle, put it on the dog, pay no regard as to its adaptability or fit, it hurts the dog and then they complain that muzzling is cruel. I must call your attention to a letter that appeared in the London *Daily Telegraph* and copied into *The Record*, when

the muzzling controversy was in full swing, it was as follows:—

"Sir,—I am a medical man and, when a student, was always taught, at the lectures on physiology given by Dr. Pavey and others, that rabies arises more frequently from toothache than any other cause, and generally brought about by the animal being half-starved. Such being the case I fail to see how this proposed order is to eradicate the disease. It can only end in the greatest disappointment and endless inconvenience and misery to the poor animal.

I am surprised that our leading physiologists have not taken the subject up long ago, instead of leaving it to the Veterinary Department, who can know little compared with medical men.—I am, yours truly,

"MEDICUS."

"I am a medical man." I feel glad "Medicus" began with that sentence, "Rabies brought on by toothache and starvation"! Comment on such lamentable ignorance is waste of time.

The Medical Officer of Health for Glasgow found fault with the veterinary profession, thought us not competent to perform the duties of meat and dairy inspectors. I trust he has seen the letter of "Medicus." May be he judges our profession by men of the "Medicus" stamp. Thank goodness no living veterinary surgeon is so deficient in knowledge of the cause of a disease attacking both man and animals.

Gentlemen,—I must draw these few remarks to a close knowing you are anxious, with myself, to hear our friend Mr. Mackinder on "Docking." I thank you for the kind attention you have given me during this short address.

Capt. RUSSELL proposed a hearty vote of thanks to Mr. Wragg for his address, which had been on most interesting subjects connected with the profession, and he moved that it be printed in the veterinary papers. Mr. Howse seconded, and the motion was unanimously adopted.

The PRESIDENT, in acknowledging the vote, thanked them very much, but he felt as he had not done so well as he should like to have done. They accepted him as president and they must also accept his shortcomings and errors.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

A meeting was held on Thursday night, the 1st inst., at the Royal College of Veterinary Surgeons, Red Lion Square, Bloomsbury, Vet.-Lieut.-Col. J. Kettle, president, occupied the chair, and the other fellows present were: Messrs. A. L. Butters, W. F. Barrett, J. A. W. Dollar, T. C Garry, H. Edgar, W. Hunting, Professor F. Hobday, Vet.-Lieut. P. J. Harris, A.V.D., Professor J. McFadyean, Professor J. Macqueen, F. C. Mahon (hon. sec.), Veterinary-Major J. Nunn, A.V.D., R. Porch, Prof. J. Penberthy, W. Reekie, J. Rowe (hon. treas.), Whitlam-Smith, H. Singleton, Harold Sessions, F. Samson, W. E. Taylor, S. Villar, H. Willis; and as visitors Messrs. F. W. Billinghurst, H. P. Chase, and Professor Dewar, Edinburgh.

On the motion of Vet.-Lieut. Harris, seconded by Mr. S. Villar, the minutes of the preceding meeting were taken as read, and were signed by the Chairman as correct.

ELECTION OF FELLOWS.

A ballot resulted in the unanimous election of the following gentlemen as Fellows of the Society: Vet.-Major J. J. Philips, Woolwich, S.E., and Mr. Hagmier, M.R.C.V.S., of 413, Mile End Road, E.

THE SALE OF VETERINARY DRUGS.—A DENIAL.

The HON. SEC. read a letter from a firm of veterinary drug sellers denying a statement made at the preceding meeting that they issued a price list of the drugs they sold, to horse dealers and other private horseowners, offering to supply articles at the prices charged to members of the veterinary profession. In the absence of Mr. Gosling, who had complained of this procedure, the secretary stated that at the previous meeting Mr. Gosling mentioned that when a client of his had come to pay his bill he demurred to the charge made for horse balls, and producing the price list in question, quoted the price at which they could be procured first hand. Mr. Mahon added that he had compared the price list which Mr. Gosling had got from his client with one forwarded by the firm with their letter, and he found the two to be identical.

The CHAIRMAN remarked that the price list was one of "spices, roots, seeds, barks, salts, mixtures and sundries."

Professor PENBERTHY said the list was evidently intended for farmers and stockowners.

After some discussion,

Professor MACQUEEN submitted that the firm in question, assuming they issued these lists to private horseowners, which they denied, were perfectly at liberty to conduct their own business in their own way and in the manner they thought best.

Professor MCFADYEAN: I imagine that none of us have the least intention of remonstrating with them, and we know full well that we have no power to prevent them selling to anybody, but we also know that we have the power of ordering from whom we like. He moved "That the Secretary write to the firm enclosing the price list, and enquiring whether there was any foundation for the statement that this price list has been issued to persons who are not qualified veterinary surgeons."

Mr. REEKIE seconded the motion, which was adopted.

RESIGNATION—A HON. FELLOW ON FOREIGN SERVICE.

The SECRETARY read a letter from Vet.-Captain Haslam, dated the 8th ult., which ran: "I regret having to resign my fellowship of the Central Veterinary Society. I am, however, proceeding abroad to East Africa, and I hope in that new country I shall be able to render some little help to the end we all have in view, namely the advance of veterinary science."

The CHAIRMAN said he was sure they all regretted to lose Captain Haslam who had accepted an appointment under the Foreign Office which would probably enable him to do some very good work. He was sure some member would propose a resolution wishing Captain Haslam health and happiness in his new enterprise and every opportunity of doing good work.

Vet.-Major NUNN moved, and Mr. Porch seconded a resolution to this effect, which was carried unanimously.

Mr. REEKIE proposed, and Mr. H. Edgar seconded, that during his absence abroad Captain Haslam be an honorary member of the Society; and that the Secretary write to him informing him of his election as such.

The motion was unanimously adopted.

THE BENEVOLENT FUND PROJECT.

The SECRETARY read a letter which he had received from Mr. Hurndall, Secretary to the Royal Counties Veterinary Society, intimating that he had duly submitted to his Society Mr. Mahon's letter with regard to the establishment of a Veterinary Benevolent Fund as a fit method of professionally celebrating the Queen's Diamond Jubilee. As, however, the attendance at the meeting at which the letter was read was not considered numerous enough to be representative, and as those present held somewhat divergent views, it was decided to call a

special general meeting of the Royal Counties Society to consider the matter.

THE CONTROL OF TUBERCULOSIS AMONG ANIMALS.

By Harold Sessions, F.R.C.V.S., Brighton.

Read at the meeting of the Central Veterinary Medical Society, held at the Royal College of Veterinary Surgeons, London, July 1st, 1897.

Origin of Name.—Tuberculosis is a name given to a disease which is caused by the growth, or multiplication of a specific bacterium. The name is derived from the effect which the germ causes in the tissues in which it grows, and which can be seen by the naked eye. These growths are invariably in the form of little lumps, and the name tuberculosis, derived from the Greek, signifies little lumps.

Various Forms.—The disease assumes many different forms, and is known under a great variety of names; of these the most familiar are, in human beings, phthisis, scrofula, tabes mesenterica, and lupus; and in cattle, grapes, pearl disease, wasting, pining, wens, clyers, and chronic mammitis.

History.—The early history of the disease is very obscure. It evidently affected human beings many centuries ago, but it was only at the beginning of this century that the term tuberculosis was applied to any specific form of disease, and, it was not until Dr. Koch's discovery in the early eighties of the tubercle bacteria, that the disease was recognised in its wide spread form. In 1882 Koch found that in all cases of tubercular disease there existed a very minute fungus which could be examined under the microscope, grown experimentally, inoculated into other animals and produce tubercular disease. There is no need to elaborate the evidence on this point, as it is now fully accepted by scientific men and by the Royal Commission, which was appointed to enquire into the prevalence and contagiousness of tuberculosis.

Bacillus Tuberculosus common to Various Species of Animals.—Having accepted the fact that in cases of tubercle there is present a specific organism, the next point which arises, is whether this organism is common to various forms of mammalia, or whether each variety of mammals has a specific organism of its own. Drs. Martin and Woodhead were specially instructed by the first Commission to carry out experiments on this point, the result of these experiments, which are published in par. 23 of the report, leave no reasonable doubt that the same organism causes the diseases both in man and other animals. Following out, however, the laws as we know them of evolution and development of species, it seems only reasonable to suppose that tubercle germs grown in any animal for a great number of generations, particularly by division, will acquire some slightly different peculiarity from the parent stock, and they may either acquire an increased or decreased virulency of power to those grown in other animals, and we ultimately might get a bovine and human tuberculosis, similar but not interchangeable, as we find is the case in some of the tænia.

In Domestic Animals.—The animals with which we are chiefly concerned are the domestic animals, and of these we find cattle and pigs are the ones generally affected, although we get occasional cases in almost all animals with which we have to deal.

In Pigs.—In pigs the disease is virulently contagious, frequently assuming an acute form and manifesting itself quickly by visible symptoms. As an illustration of the way in which tubercle is contagious among them, we have the following case. A farmer (without knowing it) had his pigs affected with tuberculosis, and for a considerable period they were unthrifty and unprofitable; he, at last, decided to get rid of all that stock of pigs and purchase a fresh supply. He sold one of these pigs to a dealer, and at the time she appeared in perfect health; a farmer happened to buy her without knowing where she came from or anything of her previous history. She had a litter of pigs within a short time of purchasing her; the small pigs were more or less unthrifty from the first. After they had been born about four weeks hard nodules developed in the sow's udder. I put this down at first to be the result of inflammation caused by the biting of the small pigs—a very common condition among sows. The pigs were weaned and placed with some others of the same age. The sow made no improvement after the small ones were weaned, but became emaciated and ultimately was killed. I made a post-mortem and found her to be tubercular. Not only did all her litter prove to be tubercular, but every pig which came into contact with this litter contracted the disease, and a fresh lot that were put into the sty that had been used by the sow, after she had been taken away and the sty had been empty for a period of two months, also contracted the disease and were badly affected. In all between 70 and 80 pigs were affected with tuberculosis through the introduction of this one, apparently healthy, animal.

A very marked post-mortem symptom in tuberculosis in pigs is a number of small marble like nodules which are almost invariably found in the spleen. In the outbreak to which I have referred, we found the pigs affected in almost all the organs of the body; some were principally affected in the lungs, some in the liver, some in the mesenteric glands, but I think without exception all were affected in the spleen. In several other large outbreaks I have found similar conditions present.

Although tuberculosis is so very virulent amongst pigs yet taking the country through there are not any very large number of animals affected, and in pigs the disease could at present be very easily held in check, and kept under proper control.

In Cattle.—In cattle, however, we find the case to be very different, and from the various statistics which are published we must accept it as a fact that a very large proportion of animals have the disease in a more or less aggravated and chronic form.

Number of Cattle Affected.—In an article in *The Veterinary Record* of this year signed "W. H." we have an estimate of the number of animals that are diseased, and although I cannot agree with some of the conclusions that are drawn, or perhaps with some of the figures that are suggested, still I have no doubt that it gives us a rough indication of the number of animals which are more or less affected. In this article, apparently based on the report of the Royal Commission, we are told that of the cattle in Great Britain over two years old 20 per cent. are affected, while in the cattle under two years old we have only 1 per cent. affected. Taking the number of cattle in Great Britain as reported by the Board of Agriculture as correct, we find that there are 4,000,000 over two years old, and 2,500,000 under two years old. Of these it is suggested that about 1 p.c. per annum show clinical symptoms of the disease and are unfit for food. In the returns from Copenhagen, the percentage of animals over two years old affected with tuberculosis is given as 17 per cent., while in those from Berlin we have a percentage of 15 per cent.

Animal Loss.—In 1892 Professor Brown presented to the Board of Agriculture a report on this subject, and he there stated that of the cows that had been killed during the year by the Board, 22 per cent. were affected with tuberculosis, while of other cattle there is only a percentage of 15 per cent. These percentages have almost all been taken from records of animals slaughtered for the butcher, or from farms where the milking stock has largely predominated. As I have had rather exceptional opportunities of seeing farm stock in their natural condition on many farms in different parts of England I

know there are very many cases of young stock who dwindle and die as yearlings which we never hear of professionally, and there are many others which we see but which either ultimately die or are killed and sold locally and which do not figure in the statistics given. I should say the loss among young stock, though very much less than among older animals, is decidedly greater than the figures quoted would indicate.

If we say for the basis of calculation that 5 per cent. of the stock over two years old are affected, which I consider nearer the figure than 20 per cent., we get a total of 200,000 animals affected. If again we take the loss on the 200,000 as equal to 1 p.c. per annum, we have a total of 20,000 animals, and a very fair and *moderate* value would be £10 a head. On this basis without reckoning the loss on young stock, we get a total sum of £20,000 per annum as the loss to the farmers and country at large.

Whatever the actual number it is quite evident that the disease is very widely spread, and that there must be a very great annual loss, both to the owners of the animals, and to the community owing to the existence of this disease.

Causes.

It becomes a very practical point to inquire why such a very large proportion of our herds are diseased, to ascertain as nearly as we can the chief cause or causes, and if possible to devise means to remove them.

Heredity.—Until very recently it was generally asserted that the principal influence or cause was heredity; at the present day it is quite as strongly asserted that heredity has little or nothing to do with the spread of the disease. To my mind there is very little doubt that although heredity cannot be said to be the actual cause of the disease, yet it bears a very important influence on its propagation. Undoubtedly there are some families of animals whose tissues are constructed in such a way that they form a very favourable seed-ground for tuberculosis, and if any germs are about they will grow quickly and luxuriantly, the animal having little or no protective power in its own body. While on the other hand I have known members of other families exposed to the same infection and under the same conditions able to resist the disease to a very marked extent

Sire.—In heredity we have to consider what influence the sire possesses and what influence we get from the dam. If the sire was tubercular is there a likely prospect of his communicating the disease either to the dam or to the offspring? A careful examination of the evidence on this point leads us to believe that there is very little danger, if any, of the disease being communicated by the sire to either the dam or offspring. A tubercular bull might by licking or coughing on a cow, or by the ejection of bacilli in the seminal fluid infect a cow, but our practical experience teaches us that such an event is highly improbable, and is not an important factor. I do not think it is possible for a bull to infect a calf at the period of service. The influence a sire has on the disease is the influence derived from the power of the protoplasmic spermatozoa to reproduce the particular form, colour, shape and peculiarities of tissues which the plasma of the sire may possess.

Dam.—It also seems that there is very little danger of the disease being communicated from the cow to the calf before it is born, and although I can quite conceive that where a cow is the subject of generalized and progressive tuberculosis it is possible for the fœtus to become infected before birth, it must be at some period after the development of the ovum has commenced, and in any case it is an extremely rare occurrence.

The part which heredity plays in the propagation of this disease seems to consist in the perpetuation of systems which favour the growth of this particular germ.

Geological Influence.—The geological conditions under which animals live have very little if any influence on the disease, and we find it amongst animals living on primary, secondary, and tertiary strata; as commonly on limestone as we do on sandstone, on clay as on chalk.

Climatic Influence. — Climate undoubtedly has a direct influence, and the more ozone and oxygen there is in the air the less chance is there for the development of the tubercle germ; while we know that in mild cases there are particular districts where the air seems an almost specific cure for the disease, such for example as the Davos Platz and the Highlands of South Africa. But in no climate, as far as we know, can the disease be spontaneously produced.

Influence of food.—There is no record extant of the food which an animal eats ever producing the disease (unless infected) and there is no evidence to suggest that it should. As an accessory cause or favouring circumstance food plays a large part, and animals fed on stimulating or forcing food, particularly such foods as brewers' grains, are rendered more susceptible to disease.

Contagion.—The great, in fact the only means by which tuberculosis is spread is contagion, principally from the air which animals breathe, or from the food which they eat. If either of these are infected with the tubercle germs tuberculosis may be set up in the animal which receives them. We find that it is not necessary for animals to be in direct contact to communicate the disease, they can also communicate it through mediate material.

Housing.—In cattle that are tied up and kept in houses, neighbouring animals cough over the same food, push it backwards and forwards with their noses and pass it from one to another. Undoubtedly this is one very common means of spreading the disease. Again, we find the same animals lying side by side, breathing into each others faces, and this too might easily be a means of communicating the disease. In many cow houses there is very little ventilation, and in most the air-space is totally inadequate, which causes the air to become loaded with carbonic acid and other injurious gases given off from the cattle, a state of atmosphere which has a very lowering effect on the vitality of the tissues and induces them to become an easy prey to disease. Where tubercular cattle have been tied up in one stall for a number of years, the woodwork and the mangers and the walls become so thoroughly infected with the tubercle germ that healthy animals tied up in the same place months afterwards will contract the disease; another means which has been advanced as propagating the disease is contact with human beings, and there is no doubt that a considerable proportion of those men who are employed in stalls in which cows are kept all the year round are themselves tubercular, and it is only reasonable to suppose that in some cases these men may affect animals. To say that men affect any large number of animals I think is rather stretching a point, and I believe that the farm animals which are chiefly affected through human agency are either pigs or fowls.

Having admitted then the large number of animals that are affected and that the disease is one which is practically only spread through contagion, though influenced by heredity, food, housing and climate, we have to consider whether there is any practical means by which the disease can either be eradicated or kept within much smaller limits, and a first step in this problem is to diagnose it.

Physical Symptoms.

Examining an animal physically, we know that we can only correctly diagnose a very small number of those that are actually affected, and this has been the great stumbling block to dealing with the disease in previous years. There are no absolutely diagnostic

symptoms of tubercle in cattle. There are many symptoms which we usually find present in the various forms the disease assumes, but nearly all these symptoms may arise from some other existing cause, and by circumstantial evidence we have to balance between the most likely probability. In cattle we have acute and chronic forms of the disease which may merge or change into each other. In the acute form the symptoms will vary with the organ or organs that are chiefly attacked, but there is always a high temperature 105—107, with quick respirations and accelerated pulse beat. If the lungs are involved auscultation will reveal the parts affected, which very quickly become congested and prevent air passing to the smaller bronchi and vesicles. The abdominal respiratory movements are shallow, quick, and often double, while the elbows are markedly turned out. There is glistening and brilliancy of the eye, a dry nose, and disinclination for food. Death is the usual sequel within the course of a few weeks.

In the chronic form there is frequently no physical manifestation of the disease and considerable areas of various organs may be affected for months or years without apparent inconvenience to the animal. In these chronic cases it is frequently noticed that other illnesses such as difficulties during parturition or colds are materially aggravated and are more difficult to subdue. In other chronic forms we find a gradual manifestation of symptoms dependant on the functions of the body which the tubercular growth interferes with. When the mesenteric glands are affected we find nutrition impaired, and the animal becomes thin and emaciated. Where the lungs are involved shortness of breath is generally a leading feature. By constant practice these symptoms become valuable aids to diagnosis, but there is not sufficient evidence in them to make the diagnosis certain.

Reliability of Tuberculin as a Test.

We have a comparatively new agent, tuberculin, which promises to enable us to diagnose the disease with comparative certainty. Among many people the results attained by using tuberculin are questioned and doubted, and it becomes very important to prove whether tuberculin properly prepared is a reliable diagnostic agent.

Experiments. Some four years ago I carried out a number of experiments with this object and at the time published some of those experiments in *The Journal of Comparative Pathology and Therapeutics*, and I then tested some 30 to 40 cows, and I also tested several isolated cases of animals which I was enabled to kill after testing to see whether the tuberculin diagnosis was correct. I entered upon this work with a great deal of scepticism, and when I found some 30 per cent. of these cows re-acting—cows which appeared in the very pink of condition—I thought the tuberculin test must be radically wrong. Among these cows was one which was particularly valued and which seemed to be particularly well. I watched all the cows that I had tested carefully. In this particular instance the cow which was valued was tested again at the end of six months and re-acted to the test; she was turned away with some other cows for a few months in the winter. During this time she developed a cough and began to lose condition; she gradually got worse, and in spite of the usual remedies she ultimately died. On making a post-mortem the organs were found to be extensively diseased. In several other instances I was enabled to verify the tuberculin test by post-mortem examinations, and in every case the tuberculin test has proved correct. After first testing the herd I repeated the test at intervals of about six months. I was much struck by the fact that cows sharing a stall with a cow that reacted the first time reacted on the subsequent tests, and that nearly all the cows that reacted were more or less in groups. So convinced was I of the correctness of the test and the very contagious nature of the disease that reacting cows were isolated and slaughtered. Occasionally a cow that reacted at a first or second testing failed to respond to future tests. This apparent inconsistency of results has given rise to unjustifiable criticisms. I believe the results are correct. I believe that such cases often mean that a particular animal has been removed from the influence of contagion, that the natural powers of its body often aided by external conditions, have asserted themselves and thrown off the disease. In fact it is a case of recovery. Although a herd may by persevering care be freed from tuberculosis, yet want of sufficient ventilation, a heated atmosphere, the purchase of fresh cows and the infection in the building will, within six months, cause the disease to be as rife as though no precautions had been taken.

Reliability of Tuberculin. It is very necessary, however, to be quite certain that the tuberculin is itself a correct and proper production because during the experiments I have tried tuberculin from several different sources, and I found there was a considerable difference in the material supplied, but I believe that which is now supplied from the Pasteur Institute can be absolutely relied upon, and is of a standard strength.

Recently I tested three herds of about a hundred and fifty cows, the tuberculin came from the Pasteur Institute in one bulk, I used the same syringe, the same thermometer, and I injected the cows myself on succeeding nights. In one case I found about 40 per cent. of the animals affected, in the other instances no animal gave a re-action, In the first herd I know tuberculosis has existed in the sheds almost, if not quite, from the time they were built. The animals were kept in day and night, there is very little ventilation, and if you go into the cowsheds after the workmen have left of an evening they are exceedingly hot, close, and strong smelling. In the other instances no case of tuberculosis has been known in the herd, the animals are turned out to grass a considerable portion of the year, and when you go into the cowsheds they smell as sweet and fresh as an ordinary barn or coach-house would. In the first case fresh cows are continually being purchased, in the others, the animals are bred on the farm. So that independently of the tuberculin test, reasoning from clinical experience and statistical knowledge, we might have expected the percentage of reactions which I obtained. The temperature and position of the cows in the shed in the first case are very suggestive.

Objections. Among the objections which have been raised to tuberculin are, first: it arouses the disease from a latent to an active form, and it causes the disease *de-novo*. Practically I think we may say neither of these results are obtained, at any rate I have found no affirmative evidence. Another point which has been raised is whether tuberculin causes, in the animal in which it is injected, a certain amount of tolerance. This, I think, is undoubtedly the case, and an animal which has reacted to tuberculin may be injected again a few days afterwards without showing any reaction at all; but this tolerance, as far as my experience goes, seems to be limited to from three weeks to a month. From a practical point of view a knowledge of this tolerance is made use of to deceive inspectors. It is reported, however, that M. Nocard has prepared a fresh form of tuberculin which can be depended upon to give a reaction in animals that are affected even 24 hours after they have been subject to the ordinary test, and if this is correct it is a very useful safeguard.

A much more weighty objection is the fact that the rise of temperature in reacting cows may take place at any period between the eighth and twenty-fourth hour after injection, and this involves the taking of temperatures every three hours. This means that if one or a hundred cows are tested someone competent to use a thermometer must remain where the cow is or cows are

to do this, and the testing becomes tedious, irksome, and expensive.

New Thermometer. To overcome this difficulty I have invented a thermometer case which can be fixed into the vagina of a cow and which will remain there for 24 hours without in any way inconveniencing her. These are now being made by Messrs. Arnold & Son and will be purchasable from them. It may be suggested that although we get the maximum temperature in this way we are unable to see whether the rise is a gradual one or whether it suddenly rushes up during the first hour or last hour of the test, a fact which would lead us to suppose there was some other cause besides tuberculin operating. This I admit is so, but I contend that such cases are so rare as not to have an appreciable bearing on the point. By using this case a practitioner can inject a few cows at various farms during the day and next day drive round and take the thermometer out and register the temperature. This great saving of expense and labour ought to help us very materially in suppressing the disease.

Cows that are unwell or in very advanced stages of disease or any whose temperatures are not normal should not be tested, or if they are, carefully re-tested a month later.

We can say, that although there may be a few errors in diagnosis, yet on the whole we can correctly diagnose tuberculosis in a sufficient number of cases for all practical purposes.

Reasons for Controlling. What then are the chief reasons for controlling the disease? From our point of view we have an adequate reason in the great annual loss which the country is put to by the death, or partial disablement of such vast numbers of animals. Another reason, and one which with the general public would probably carry the greatest weight, is that these animals which are affected with tuberculosis are to a great extent animals which in some form or other are consumed by the general public, that either the milk or the meat from these cows finds its way into public use, and that experiments and experience have proved that it is quite possible to convey the disease in either the meat or the milk. Apparently much the greatest danger lies in the milk, which is supplied from a tubercular herd. It is unnecessary here to dwell on the evidence that has been amassed on these respective points. I fully agree with the finding of the Royal Commission contained in pars. 48 and 64, and on these I base my assertions.

Have we any means by which this disease can be eradicated or controlled, and if not can we create means which can practically carry out this desire? Any means which are adopted to deal with such a vast disease must be very expensive, but we have, on the other hand, to remember that there is an annual loss to the stock-owners and to the productive power in this country estimated at something over £20,000 per annum. If we capitalise this sum at 3 per cent. we have a very large amount of money available to deal with the disease. At present I think it is generally admitted that there is no machinery in working order competent to take up this question, and that these and similar questions should be dealt with by properly constituted authority.

Means of Controlling.

The authorities which I would suggest for dealing with the question are, first of all, a Central Board in London, who would have the framing of all general regulations controlling the disease, making uniformity all over the country. They would also have the compiling and comparing of statistics from various counties, and be in a position to give expert advice and assistance in any part of the country where it might be necessary.

In every county I would suggest another Board or veterinary inspector in direct communication with the central authority, whose duty it would be to deal with the disease in his respective county; and in each district I would suggest local veterinary inspectors in communication with the county inspector, who would be given power to deal with the disease in their respective localities.

If you provided machinery by which the animals could be inspected, the question would arise, what animals should be inspected? I think we could safely limit them to milking cows and bulls; and then if they are inspected a provision must be made for the proper disposal of all animals that are condemned. This requirement I think could best be provided for by the establishment in every county of a public abattoir. I would then suggest that once a year, at least, all milking cows and bulls be tested with tuberculin. Those that react should be branded, and at once isolated; the stalls should be thoroughly cleaned and disinfected. These animals might be fattened and sent to the abattoir in a fit condition; they should there be valued by competent and disinterested valuers, and the owners paid their full value, the animals then to become the property either of the county or Imperial authorities. They should be slaughtered and carefully examined

When an animal is obviously diseased and is in a poor or wasted condition and of a less value than about six pounds, no compensation should be awarded, it should be dealt with under the Animals Diseases Act as a source of public danger, and the owner made liable on default of reporting it.

The report of the last Royal Commission on the circumstances determining danger to men from meat of tuberculous animals, I think proves that a very large percentage of these animals which would react might quite safely be used for human food; and we may take it that of those animals which reacted only some 3 or 4 per cent. would be utterly condemned. These the county or Imperial authorities would have to bear the loss of; the other animals would be dressed in the ordinary way for food—special care being taken to carefully cut out any small portion which might be tubercular, and the rest of the carcase could then be sold as second quality meat for human food, or used for Government contracts, etc. Undoubtedly this would mean a certain loss to the authority which had to buy the animals, but I believe the loss would in no way approximate to the loss which accrues to the country through the annual death or disablement of animals at the present time, independently of the large sentimental value attaching to human life.

Besides provision for the disposal of condemned animals, well considered regulations, properly and universally enforced, would have to be made for the isolation of affected animals; the disinfection of cow stalls; their proper ventilation and drainage; while the minimum air space, of at least a cubic foot per pound live weight of cow, should be enforced.

Discussion.

Professor McFadyean: Mr. President and gentlemen, I rise with great pleasure in response to your call to open the discussion on this interesting subject. I have no doubt that the discussion is likely to prove an animated one, and if the rules of the Society admit, a protracted one, and, therefore, I must not occupy a very long time myself. I noticed that Mr. Sessions began his paper by apologetically observing that he was neither a pathologist nor a bacteriologist. Well, it struck me that the apology was unnecessary. I do not know who has said that only those who are pathologists and bacteriologists can express opinions of value as to the best methods of dealing with tuberculosis. Mr. Sessions may not be a pathologist but he knows some pathology, and he also knows some bacteriology, and certainly he has the very

important qualification for treating this subject, of having had a large amount of practical experience in dealing with tuberculosis. Therefore, I think, he was well qualified for undertaking the composition of this paper, and I also think he has acquitted himself to our entire satisfaction. (Hear, hear.) In connection with a subject that ramifies in so very many directions, it is not likely that we shall all form unanimous views on every point. There are some things that Mr. Sessions gave expression to with which I do not agree, but I do agree with the greater part of what he said, and in particular I agree with him on the points that are of main importance. One of the points on which I do not agree with him Mr. Sessions touched upon at the very outset of his paper. He said that the disease had not been recognised as a wide-spread one prior to the discovery of tubercle bacillus by Koch. That is assuredly not correct, and it is only right to remember that long prior to the discovery of the causal germ of tuberculosis, practitioners, on the simple ground of observation and clinical evidence, had arrived at the opinions which we hold now, that is to say, it had been recognised by many practical men before the discovery of the bacillus that tuberculosis was a contagious disease and measures to deal with it as such had been urged both by members of the medical and veterinary profession. I think that ought to be mentioned to the credit of practitioners who could make no claim to being bacteriologists or pathologists With reference to the identity of the germ that is the cause of the disease in various species, Mr. Sessions, I think, assumed it as proved that the germ in each species was identical with that which is the cause of tuberculosis in others. I think nobody denies that now with reference to the tubercle prevailing in the various species of mammals. I am not quite sure, however, that this is accepted by everybody with reference to the bacillus that is the cause of tuberculosis in fowls. I am rather inclined to think, too, that tuberculosis in pigs is not often due to infection from human sources, and I do not think that the disease exhibits a great tendency to spread from pig to pig. My impression was—although I am prepared to abandon it when sufficient evidence to the contrary is forthcoming—that in 90 per cent. of cases of tuberculosis in pigs the infection is not from pig to pig, but from cow to pig ; and nearly all the cases of tuberculosis in pigs that have come under my observation, where evidence as to the mode of infection was really obtainable, were due to the feeding with tuberculous milk or slaughterhouse offal. I do not deny that, in certain circumstances, the disease, once started among pigs is spread from pig to pig as in the instance mentioned by Mr. Sessions. Then with reference to the much-discussed question of the prevalence of the disease in this country, I suppose we are all prepared to admit that we have not available any evidence that justifies more than a guess as to that. We cannot pretend that we know to one or two per cent. what is the amount of tuberculosis in this country ; but still we do know, as Mr. Sessions mentioned, that among the cattle slaughtered under the pleuro-pneumonia slaughter order somewhere near 20 per cent. of these animals were affected with tuberculosis. Now, it ought to be remembered in connection with that figure that the inspection to which carcases were subjected under the pleuro-pneumonia slaughter order was by no means a rigid one. It usually extended merely to a cursory examination of the principal viscera of the abdominal and thoracic cavities, and I think that, with very few exceptions, it did not include a careful examination of all the common seats of tubercle. Hence I think if that examination had been correct or searching the proportion of animals affected with tuberculosis would probably have been found to be 30 per cent. I certainly think it is probable that more than 5 per cent. of the cattle in this country over two years of age are the subject of tuberculosis. I think it is not improbable that nearly twice that percentage are tuberculous. Mr. Sessions said that the percentage at Berlin was 15, and at Copenhagen 17. I do not know whence he derives these figures. My impression is that the percentage in adult cattle is much higher at both those places. (Mr. Sessions : Those are the figures of the last Government return.) I know that in some figures about Denmark, supplied by veterinary surgeons, the percentage of tuberculosis is about 30 per cent. in adult cattle, and in many places the percentage in dairy cows is 50 or 60 per cent. The percentage among young animals in this country is, I think, small. One per cent. is probably the outside, although Mr. Sessions thinks that a considerable number of cases pass undetected in young animals. That is no doubt true of old animals also, but what he mentioned did not entirely convince me. He spoke of animals pining gradually and being put out of the way. We know that there are other diseases that lead to pining. Unless Mr. Sessions can assure us that he has post-mortemed a large number of young animals and found them to be tuberculous, I am rather inclined to think that the percentage of young animals in this country is even less than one per cent. I know there are places abroad in which the percentage is greater. It has been shewn to be considerably greater in Denmark, but then the conditions are not the same in Denmark as in this country. There the calves and the cows that give birth to them are for seven months of the year stalled together in the same building. There are many Danish stocks in which 50 per cent. of the cows are tuberculous. In that case I should not be surprised if one per cent. of the young animals were tuberculous. Here in England the practice is not the same. As a rule the calves are kept in a separate building unless they happen to be sucking their dams, and in that case neither the calf nor its mother is so closely confined. Mr. Sessions thinks there are many breeds in this country in which the proportion of tuberculosis is small. What he said would almost lead us to infer that there are breeds in which tuberculosis hardly exists. If we exclude the mountain breeds, which are practically never kept in houses, we have very few breeds in which there is not a considerable proportion of tuberculous cases, but I agree with him that the percentage is largest in the animals most closely confined. He might, when he replies, mention the breeds in this country which he thinks are entirely exempt. Then there is the vexed question of heredity. I thought at first that Mr. Sessions was going to adopt and defend the view that tuberculosis is very frequently present in the calf at birth. He did not, but, on the other hand, he appears to hold that a predisposition to tuberculosis is frequently transmitted, and he thinks that that plays a decidedly important *rôle* in the transmission of disease. He did not furnish evidence that convinces me that that is so. He said he had noticed that particular animals appeared to resist the disease more than other animals. Take an analogous case. We all know that when a horse, with the seed of glanders, is introduced into a large stud the whole of the animals very seldom become affected, but, as a rule, only some comparatively small proportion of them. But are we entitled to say that the majority escape on the ground of a measure of immunity against the disease? It may be so, but the evidence does not prove it. I think that the evidence in favour of a special predisposition to infection on the part of breeds in this country is not very strong, and I do not think the matter is very important, unless Mr. Sessions can point to a breed that has a very considerable degree of immunity. Our best breeds we know have no such immunity. The all important point to remember is that no matter what is the degree of predisposition, an animal will never take tuberculosis until it has been exposed to the risk of infection.

With regard to tuberculin I can only say, after some

experience of it, that I have absolute faith in it. Even though, on a post-mortem examination of an animal that had reacted, I failed to find tubercular lesions after spending two hours in the search, I would still decline to say that the animal was not tuberculous. I do not know that I have ever failed to find lesions in an animal that has reacted. I know that those competent to make a search have thus failed, but no one pretends that the most thorough post-mortem examination will reveal every tubercular lesion. I should like to take this opportunity of making an explanation, because I have sometimes been erroneously cited as one of those who do not think the tuberculin test of great value. It is true that in the experiments which I carried out for the first Royal Commission on Tuberculosis no tuberculous lesions were found in one of the animals that had reacted, and that such lesions were found in a number of animals that had not reacted. But I have since pointed out that this result was due to the circumstances in which the test was carried out. At that time it was impossible to induce anyone to submit his dairy cows to the tuberculin test, and I had therefore to utilise for the purpose cattle that had to be killed under the pleuro-pneumonia slaughter order. The experiments had for the most part to be carried out at slaughter houses, to which the cattle had been brought from their own byres, and in circumstances that would tend to disturb the temperature. Other observers have since found that the test is not reliable in the case of slaughter house or market cattle, but I assert that it is absolutely reliable when carried out with animals standing undisturbed in their own premises. With regard to the measures that ought to be adopted to control the disease that is a very wide subject, and I have hardly time to express an opinion upon the point. I think most of us would prefer not to express a very decided opinion until the present Royal Commission has issued its report. I think Mr. Sessions is a little too sanguine about our ability to deal with tuberculosis as a whole. He suggested the testing of all milch cows once a year. How many are probably in the country? A million? Say a million. It would cost at least £50,000, probably £100,000 a year to test them. And in the meantime you could not get veterinary surgeons enough for the purpose. That is, perhaps, not a great objection—(laughter)—because we could set to and make them, but I do think that on the grounds of expense it is hardly possible for us at the present time to deal with tuberculosis as we should like to deal with it. On the other hand I am just as well satisfied that an individual who has tuberculosis in his herd can get rid of it without great expense. If there is such a great pecuniary loss as we are led to believe there is through the prevalence of tuberculosis it is worth the individual owner's while to attempt to deal with it himself; and I am confident that by the use of tuberculin in the hands of his veterinary surgeon anyone can, in a few years and at a comparatively small expense, get a clean bill of health for his stock. (Applause.)

Professor DEWAR said that as a stranger he felt highly favoured in being asked at that early stage of the meeting to make a few remarks in connection with this interesting and important subject. He did not think Mr. Sessions was very far wrong in his estimate of the number of cattle affected. His belief was that in Edinburgh they were, perhaps, as strict in the examination of cattle slaughtered for human food as in any city in the British Empire. In the last two years the number of cattle slaughtered in Edinburgh was, roughly speaking, 35,000 or 36,000 per annum. Out of this number the local medical officer of health seized all that were affected with tuberculosis. They might take it that very few were allowed to escape. During the last two years the number of carcases condemned in the slaughterhouse had been under 200. Of these 20 carcases were those of imported cows. He was inclined to believe that the outbreak of tuberculosis was to some extent traceable to the buildings in which the cattle were placed. Mr. Sessions had alluded to apparent recovery in the use of tuberculin, that was, that in the repeated testing of animals with tuberculin it was sometimes found that an animal which did not react, reacted when it was again tested after an interval of six months or a year. Mr. Sessions described those animals as being more dangerous than those which reacted, because a false impression was created that they had actually recovered. He (Professor Dewar) thought they did sometimes actually recover. Finally, touching on the subject of the compensation to be paid, Professor Dewar considered it was most unsatisfactory to fix a maximum value to be paid for an animal that had to be condemned. He would award full compensation for an animal apparently quite healthy on examination by a qualified veterinary inspector, which only an autopsy revealed to be diseased. But in the case of an animal that, on cursory examination was manifestly affected with tuberculosis, he did not think the owner had very much claim for compensation for slaughter. It should be made the interest of stock-owners to get rid of the disease, and not their interest to procure affected animals in order to realise compensation money in respect of slaughter.

Mr. S. VILLAR said he should like to point out one or two matters in which his experience of tuberculosis differed from that of Mr. Sessions. That gentleman informed them that his experience of tuberculosis in pigs was that it was virulently contagious and rapid in its course. Now in the pigs that he (Mr. Villar) had seen affected with tuberculosis, the very opposite conditions almost invariably prevailed. His experience of tuberculosis in pigs was that while he was engaged in killing off many pigs because of swine fever existing on certain premises he only occasionally came across one or two cases of tuberculosis in pigs, and he could also call to mind cases where sows affected with tuberculosis had reared their litters of pigs and the young had been fed off for the butcher in the ordinary way without developing symptoms of tuberculosis during the short period they were allowed to live. If tuberculosis was so virulently contagious and rapid in pigs as Mr. Sessions stated he could not help thinking that there would be more pronounced symptoms of the disease and many more animals affected. Mr. Sessions asserted that the disease was so contagious in the case of pigs that a pig stye which had held pigs affected with tuberculosis would, after it had remained empty two months, infect any healthy pigs that might be placed in it. He (Mr. Villar) would like to have some statistics of this remarkable contagiousness, and also as to the contagiousness of tuberculosis in relation to buildings, among cattle. With regard to the percentage of cattle affected with the disease, 20 per cent. was said to be the estimate in the case of milch cows. It occurred to him that that percentage was really very moderate. His experience taught him that it was quite an exception to find on post-mortem examination milch cows absolutely free from symptoms of tuberculosis—milch cows, he meant, that had been kept in sheds and fed with food, such as brewers' grains, that rendered their constitutions weak. In the case of cows injected with tuberculin did Mr. Sessions hold that all the milk they yielded, say for 24 or 36 hours after injection, should be thrown away? Did he recommend that this should be sold for human consumption? Mr. Villar noticed that in one instance Mr. Sessions tested 83 animals in one night. Did he consider that animals which had received an injection of tuberculin were in a fit condition to supply milk for human consumption? That was a very important matter. The loss of the milk supply of 83 milk cows for one night and day he estimated at from £15 to £20, and he held that, if the milk had to be thrown away in consequence of the

application of the tuberculin test, the dairyman was as much entitled to compensation for loss of the value of the milk as a grazier was for the loss of the value of his beef. Prof. McFadyean estimated that from £50,000 to £100,000 a year would be needed to have an inspection once a year of all the milch cows in the country. He (Mr. Villar) was glad to hear this, and hoped that a start in this direction would be made very soon. (Laughter and applause.)

Mr. W. HUNTING said there was only one point to which he wished to devote a few minutes, and that was the point (which really was the point of the paper) that Professor. McFadyean carefully avoided, namely the control of the disease. Certainly the professor did suggest—as he had done before—that there was a simple way of control, namely that every practitioner should advise his client to get rid of the disease with the aid of tuberculin. (Hear, hear.) But that left all the people who were absolutely without conscience to supply their neighbours with animals picked out through the agency of tuberculin, and thereby spread the disease. In fact it seemed to him that, in carrying out the sort of selfish voluntary principles suggested by Professor McFadyean, what was done in the way of good with one hand would be absolutely undone by the other. If the disease was as important as they believed, surely it was worth treating by the State. As the essayist said, there were two reasons why something should be done. One was—and he was not going to exaggerate this reason—one was danger to human beings from meat and milk, and the other—and this was all sufficient—was a very large loss of national productive power at the present time. If we had anything approaching the percentage of animals suffering from tuberculosis that had been represented—tuberculosis being a contagious disease likely to increase if not interfered with—surely that was a good reason why the State should interfere to protect the owner of stock and protect the nation from this serious loss. At any rate, he was inclined to think that there was sufficient evidence before them to warrant them in advising the State that some control should be adopted. Now they could not have anything like voluntary control. It was not a bit of good providing for pickpockets and such like unless they also supply policemen as executive officers of the law. And, it was not a bit of use trying to put a stop to tuberculosis unless they had local authorities to enforce the law and to pay the veterinary inspectors for their services. It seemed to him that they had already an analogous disease and an analogous measure to that which they required in the case of tuberculosis. There was no disease in its spread so much like tuberculosis as glanders. There was no set of measures, as far as he could see, so likely to suppress tuberculosis as those which had nearly suppressed glanders. In fact they had only to substitute the word "tuberculosis" for "glanders" in the present order of the Board of Agriculture, to have a really first-class measure for the suppression of tuberculosis. That order simply said that there should be compulsory notification of disease. Without compulsory notification they could never find a disease or do anything unless they had an army of thousands and thousands of inspectors to hunt the disease up. With compulsory notification they had at any rate power to find out the whereabouts of the disease, and thereby they were enabled to do something. But there was something else. So soon as they got compulsory notification, they would go through exactly the same procedure as they passed through in regard to other diseases, in relation to glanders twenty years ago, and in relation to foot-and-mouth disease. They would find half, perhaps more, of the intelligent agriculturists evading the act all they could. And if they waited for the next 150 years with the voluntary principle the inteligent agriculturists wonld do the same thing, but they could affect him by compulsory notification of disease, and educate him up to the pitch in which they could do more. It was no use notifying merely. The inspector must examine the animals, and when he found one case clinically evident he had the right to suspect others, and to look for other cases. When he had found out, by the use of tuberculin, all the cases of tuberculosis, he should be able to enforce isolation of the diseased ones. There was no hardship to the owner in picking out all the diseased animals and forcing him to isolate them. On the contrary, the owner was benefitted by prevention of the spread of the disease. But the infected animals could not be isolated for ever. Hence he proposed to get rid of them in this way: all the clinically diseased animals should be slaughtered and compensation paid for them. The other animals should be permitted to live on as they would have done in the hands of the farmer, either for breeding purposes or until they were sufficiently fed to be sold to the butcher. Of course he was aware there was a difficulty about payment of compensation. The amount to be paid was the all important question. But if they left the Act to be carried out by the local authorities there was no doubt they would not pay too much, or do too much all at once. But you must leave the enforcement of the law in the hands of the local authorities in the first instance. This the Government has done in the case of other contagious diseases. The Board of Agriculture invariably allowed the local authorities to try the first experiment with any disease. And when the local authorities had taught the British public and the veterinary profession something about the disease—(laughter)—when, in fact, the latter coupled with the Board of Agriculture, had learnt all that was necessary, the Board generally took the matter into its own hands and appointed some naval officer to see that the law was carried out. (laughter.) They (the local authorities) had meanwhile taught the Board of Agriculture, the veterinary profession, and the public all that it was necessary to know. If they altered the glanders order as he suggested and applied it to tuberculosis they would then very soon educate the people up to the necessary pitch. Tuberculosis was a disease that could only, he believed, be tackled effectually in the same way that they tackled glanders, cattle plague, or pleuro-pneumonia. He could not see that, if there was any argument in favour of a glanders order, there was not precisely the same argument in support of a tuberculosis order on precisely the same lines as the present glanders order. (Hear, hear.)

Mr. J. A. W. DOLLAR said that although he could not pretend to have any great acquaintance with pigs and still less with tuberculosis in pigs, yet during his stay in Berlin an example of the transmission of tuberculosis from tubercular cows to pigs, through the medium of milk, came under his notice Almost the whole of the city of Berlin was supplied with milk by one large milk contractor, Herr Bolle, who had about 800 or 900 cows. He had, on the outskirts of Berlin, a perfect little town in which he lodged his work-people and a model farm which attracted the visitors to Berlin. When he (Mr. Dollar) first arrived in Berlin there was a tremendous outbreak of tuberculosis amongst Herr Bolle's pigs that were largely fed on the residue obtained from the separators in which the cream was separated from the milk. When the skimmed milk was run off there was left at the bottom of a reservoir a thick curdy material which contained particles of foreign matters and amongst them tubercular bacteria. This refuse formed a large part of the pigs food. Notwithstanding all the care exercised, cows suffering from tuberculosis were introduced into Herr Bolle's herd, and as a result the residue of the milk they yielded being given to the pigs, many of the latter were affected by the disease. Soon afterwards tuberculin was suggested as a valuable diagnostic agent for the detection of tuberculosis, and Herr Bolle, who was a most go-a-head man, immediately had some

experiments made when he was horrified to discover that 30 per cent. of his cows reacted to tuberculin. He did not proceed to slaughter but had the animals isolated. In fact he carried out very much the same plan Bang has suggested in regard to Denmark. He isolated the cows, boiled all the milk taken from them, and very soon got rid of the infected animals. That he (Mr. Dollar) thought showed very clearly how easy it was for pigs to become infected in that way, and it was also at the time a very valuable testimonial to the properties of tuberculin and the services it might render in rooting out disease in a herd. Since then Herr Bolle had kept his herd practically free from disease. A point was brought forward by Professor McFadyean as to the percentage of adult animals suffering from tuberculosis, and he apparently based his estimate of 20 per cent. of adult animals in Great Britain on the conclusions arrived at during the slaughter under the pleuro-pneumonia order. It occurred to him (Mr. Dollar) at the time that that was probably not quite a fair basis to take for the estimate of percentage of tuberculosis amongst all the cows of Great Britain, because he thought something must be set off in connection with that estimate for the predisposition which these animals would have to tuberculosis owing to the previous disease from which they were suffering—in fact an attack of pleuro-pneumonia might possibly predispose to the onset of tuberculosis. (Professor McFadyean indicated dissent). His friend, the Professor, did not appear to coincide in that view and, perhaps, it was not well founded, but undoubtedly they would hear something more on the point. But the points raised by Mr. Hunting were really, as he said, amongst the most important which they had to consider, namely, the manner in which they were to deal with the disease and what was, after all, the most practical way of stamping it out. Personally he (Mr. Dollar) was not in favour of compensation in connection with any disease. He thought the practical difficulties in the road were too great. In this connection he remembered having had some very long passages with his friend, Mr. Hunting, some years ago when that gentleman so strongly brought forward the question of compensation for glanders. As Mr. Hunting said, it was absolutely impossible to move in the question without leaving to the local authorities the work of dealing with the disease in the separate localities. As they had had a very fair example of what local authorities would do in connection with compensation, that was to say they would do nothing at all, he thought Mr. Hunting's proposal to give compensation in tuberculosis was, to say the least, scarcely workable. Mr. Dollar suggested in lieu of this a system that worked very well in France. A buyer there detecting disease in his purchased animal, within a few days after the purchase, was given by the law the right of bringing an action against the vendor within three months of the sale, for the recovery of damages in the event of the animal purchased being proved to have spread infection in his herd. That Mr. Dollar thought, was a simple and practical measure which would work well in this country as it did in France. (Hear, hear.) Finally, he pointed out that under the amendment of the Public Health (Scotland) Bill they had another means of working for the diminution of tuberculosis along with other diseases. Veterinary inspection—a principle of the Public Health (Scotland) Bill—was not embodied in the measures under which they worked at the present time in London.

Mr. SAMSON said he personally when engaged under the pleuro-pneumonia order had simply concerned himself with that disease and had not looked for tuberculosis. Hence if the figures quoted as to tuberculosis were based upon the information gained when veterinary surgeons were busy carrying out this order, he felt sure they must be decidedly wrong.

REPLY.

Mr. SESSIONS, in reply, said: I must thank you for dealing so very leniently with my paper. I am quite conscious that a great many points that I might have touched upon have been omitted, and I am also perfectly conscious that on a subject like this all of us hold more or less divergent views—views probably based on our individual experience. As to tuberculosis in pigs to which several speakers have referred, I may say that in the first instance I have in my mind between 70 and 80 pigs were affected. They were fed on barley meal. There was no milk given them at all and no offal. I saw them all nearly every day of their lives and I believe there was no means of any extraneous infection. I believe it was a case in which they were infected from this one source. I think a great many of the outbreaks amongst pigs occur through their having milk from tuberculous animals. That is the primary cause, I believe, but when one pig is affected I think you will find the disease is easily passed on to the other pigs; and, in many instances, it is very virulent. With regard to the percentages I have mentioned, I purposely tried to take a low percentage. I thought if I took a fuller percentage of animals affected it would make the annual loss to the country so very great that it would hardly be credited, and probably damage the cause I have in view by exposing me to a charge of over-stating the case. The fact that the speakers in the discussion agree that the figures should be larger strengthens our case that there should be some control over tuberculous animals. Professor McFadyean, I think, asked what breeds were most free from tuberculosis? The Welsh and the Highland cattle, Herefords to certain extent, Sussex to a less degree, and Devons to the last degree. With regard to animals being immune, I strongly think there is a certain amount of immunity in certain constitutions and tissues. Some families of cattle which I have known for several generations seem to be affected with tuberculosis almost directly they are put in a stall and brought into contact with disease, while in other families that are living under the same conditions you can trace the animals back through several generations, and they seem to be able to withstand the atmosphere of the cow stall, and certainly show no physical signs of the disease. As to the owner getting rid of tuberculosis himself. The owner can do it and ought to do it where he breeds his own animals. But in present conditions I do not think it is possible for an owner to stamp out tuberculosis where he has to buy fresh cows in the market place or elsewhere where there is no means of testing them. When he has got them home he probably thinks it hardly worth while to test them then, and so puts up with what he has purchased. I am glad Professor Dewar supports me as to buildings affecting cows. I am strongly of opinion from my own experience, that when you have got rid of tuberculosis out of a herd or cowshed and have placed fresh healthy animals in that shed, that when the latter show symptoms of disease they have contracted it through something existing in the building. Months after a building has been cleared of infected animals, I have placed in the cowshed healthy beasts with the result that they have become affected with tuberculosis. As to contagiousness, it is difficult to give statistics but we certainly know that cattle are easily affected from each other. I have found that an animal tied up to a tuberculous animal would, after six months, react to tuberculin, and that a third animal put near them would six months afterwards do the same. With regard to throwing away the milk during the injection of tuberculin, as far as I have been able to ascertain no ill results have occurred from the use of milk derived from cows infected with tuberculin. He had tested such milk and knew no reason why it should be thrown away. Its disuse would be a mere matter of sentiment. There was no danger in

its use. When we are testing a herd of cows and have to take the temperatures every three or four hours, we sometimes find a drop in the milk supply of from 60 to 10 gallons the next day or two. That is a serious matter to the farmer and one which he does not relish. I have found this thermometer case that I have invented obviates that difficulty. The animals do not object to the insertion of the instrument, and there is no loss of milk. Mr. Hunting expressed some views concerning isolation and compensation. I believe Mr. Hunting will have the opportunity soon of seeing Sir Richard Thorne-Thorne who, I have no doubt, will explain fully his views about compensation, as to which he holds strong opinions. I do not think, save in the case I set forth in my paper, there should be compensation. What you want compensation for is to offer such facilities as will induce people of their own initiative to get rid of animals while they are in a comparatively useless state. (Hear, hear).

On the motion of the Chairman, seconded by Mr. Samson, a cordial vote of thanks was given to Mr. Sessions for his paper, after which the meeting, which was the last of the session, terminated.

Royal College of Veterinary Surgeons.

THE JULY EXAMINATIONS 1897.

The Written Examination was held in London on the 8th, and the Orals and Practicals on and between the 13th and 17th of July.

The following students passed their Final Examination and were admitted members of the Royal College of Veterinary Surgeons, with the exception of Messrs. C. E. Perry and A. J. Hines who are under the required age :—

Mr. S. T. Amos	Mr. J. B. Collyer *
P. M. Evershed	F. C. Gillard
* A. F. Harber	A. J. Hines
R. W. Hall	A. Miller
J. R. Jackson	* C. E. Perry
* A. Olver	W. J Watt
J. T. Thurston	* S. B. Woolatt
F. T. Walder	* R. Wood
* B. E. Wooster	W. V. Allen
P. E. Hoyland	W. F. Hughes
F. M. Sknes	A. M. Bruce
S. Dixson	H. J. A. Bradbury
J. A. Hewson	H. K. Tasker
C. Goundry	F. B. Gresham
F. J. Pringle	R. Hudson
T. McGhee	C. D. Stewart
J. T. Jewell	

The following students passed their Third Examination :—

Mr. W. H. Anderson *	Mr. C. W. Abrams
G. W. Bloxsom	E. Brown
R. W. Carless	A. H. Cory
W. Cranston	D. Chalmers
T. Elliott	E. T. Goodall
H. Gamble	G. P. Knott
E. Peacey	H. W. Percy
C. F. Parsons	* C. Radway
P. W. D. Smith	P. J. Simpson
H. A. Woodruff	T. Wolsey
W. R. Williams	A. Whicher

The following students passed their Second Examination :—

Mr. R. C. Baxter	Mr. R. L. Green
H. Burrell	J. Cane
D. S. Dickman	H. H. Jeffries
* G. Lockwood	W. Lawson
* J. Lee	* J. Neale
* J. H. Poles	A. L. Purdy
* C. G. Rix	* C. Roberts
* D. H. Rait	J. P. Stableforth
E. L. Siddall	* R. Stokoe
J. J. D. Tapley	* J. M. Tate
* G. H. Wooldridge	E. A. Wilshaw
* A. M Brodie	* H. G. Allen

The following students passed their First Examination

Mr. H. Anthony	Mr. H. H.Aldred *
T. G. Bush	H. H. Barker
G. H. Broad	P. V. Beatty
P. F. B. Bassett	E. Child
H. Cooper	* R. J. Collings
J. A. Dixon	W. G. Flanagan
E. S. Gillett	* H. Greenfield
* K. Hewlett	G. D. Horsey
A. Leaming	E. Nicholson
J. Nicholas	W. N. Rowston
H. A. Reid	W. S. Stevens.
J. T. Share-Jones	H. Sanderson
† H. Thackeray	C. Tyler
G. Tucker	L. M. Verney
E. J. Wadley	C. M. Wilson

Mr. A. Macfarlane.

Marked thus * passed with 2nd Class Honours.
" " † " " 1st " "

A. W. HILL, *Secretary.*

DEATH FROM GLANDERS.

EXTRAORDINARY EVIDENCE.

On Thursday afternoon, the 22nd inst., at the Fulham Union Infirmary, Mr. Luxmore Drew, the West London Coroner, held an inquest on the body of James Thomas Lawrence, aged 35 years, a horse-keeper, lately residing at 28 Ewald Road, Fulham, who died in the Infirmary from glanders.

Mr. Spencer watched the case on behalf of the London County Council, and Mr. E. W. Pheasant represented Mr. Taylor, the employer of the deceased. Mr. Francis Ridler, the veterinary surgeon to the London County Council was also in Court.

Rebecca Lawrence, of 28 Ewald Road, the widow, identified the body of her husband who was a horse-keeper, and had been used to horses all his life. He never had a days illness until a fortnight the previous Saturday, July 3rd, when he complained of a ladder having slipped at the railway arch stables, and that he had fallen and hurt his side. The next day he went to the hospital and they bandaged him up and told him to come again. There was a scratch on his forehead. On Monday he went to work for a little while and did some lime-washing but had to return home again. On Thursday, as he had got worse, they would have taken him into the hospital but not having a spare bed he went to the infirmary. At that time he was complaining of pain in his head and could not sleep. He said that he had been doing lime-washing as some of the horses had died from glanders.

By Mr. Pheasant : She did not know he had been discharged earlier in the day on which the ladder slipped. He had told her it was dangerous to meddle with horses which had glanders.

John Smith a horse-keeper, of 4 Starr Road, Fulham, in the employ of Mr. Taylor of the Laundry Road and the Railway Arches, New King's Road, Fulham, said 18 horses were kept at the latter stables. Personally he had never known of cases of illness or death. The deceased worked on the same premises and looked after eight of the horses. Witness saw him fall as he was coming down the ladder from the loft. The ladder slipped. It was a pure accident. The next day he said his ribs were broken and on the Tuesday and Wednesday afternoon following, he did a little lime-washing. That was not because of infection but because it was a regular practice. The horses had not been changed as far as he knew. The deceased only complained of pain in the head and did not mention glanders. Another man who had had charge of the same horses was not ill.

By Mr. Pheasant: He heard that there were glanders in his own stable, but deceased would never go there, it was in a separate railway arch.

William Brockway deposed that he was foreman to Mr. Taylor, and the first he knew of glanders, was a fortnight ago at the Laundry Road stables and which Mr. Ridler had removed. There was also a case at the Railway Arches a week ago. Smith was in charge of that horse and was there when it died. Witness knew it was a case of glanders and told Mr. Taylor who sent for Mr. Ridler. Lawrence might sometimes have had to clean this horse, which was first taken ill about four days after the deceased met with the accident. He was sure deceased was not there doing lime-washing until after that horse had been removed.

By Mr. Spencer: Four horses were taken from the arches the same day—he thought it was Thursday. Lawrence was at work on the Wednesday and Thursday or Thursday and Friday. In deceased's arch none of the horses were glandered and deceased would have no necessity to go into the other arch. The lime-washing was not to disinfect and cleanse the glandered stables. Smith was in charge of the horses when they were ill.

By Mr. Pheasant: One horse died on July 3rd from inflammation, and Harrison & Barber removed it. Witness had given the deceased notice the day he fell down, but afterwards re-engaged him to do some lime-washing.

Smith—recalled—still adhered to his evidence that he did not know of the glanders, and certainly was not present when one of the horses died.

Mr. Alfred Edmund Taylor, cab and omnibus proprietor, of the Laundry Road, said he had about 100 horses, some of which were kept at the Railway Arches. Witness was away from London, but on returning three weeks ago saw they had glanders and sent for the inspector. Altogether 13 horses were destroyed. Witness had no idea where the glanders started. Witness did not know what horses deceased had charge of, but it did not appear until after he had been discharged. The lime-washing was done periodically and not because of any infection. Since then he had heard that deceased did some of the work.

By Mr. Spencer: The County Council supplied him, through the police, about 2 years ago with a placard describing the symptoms of glanders and cautioning the men as to the dangers. Witness was then at Starr Road, Fulham, and he hung the placard up in the stable room. Since he moved he had not given the men any caution. On his return on July 6th he saw two horses wrong and on 7th July Mr. Ridler condemned three horses; on July 10 he found one horse at Laundry Road and four at the Arches affected, and they were destroyed as were also three on July 13th, and one on July 15th and 17th.

By Mr. Pheasant: Glanders might have existed for months without his knowing it.

Francis Ridler stated that he was a Member of the Royal College of Veterinary Surgeons, and held an appointment under the London County Council under the Contagious Diseases Act. On July 7 he received notice from Mr. Taylor and condemned three horses at Laundry Road. On July 10 he went to the Railway Arches and condemned four horses there. He could trace no connection between the two stables. On July 13 he condemned three horses, and on 15th and 17th one each day. The stables were clean, in good condition, and properly whitewashed. He gave directions for disinfecting. Glanders might be conveyed from mucous membrane to mucous membrane, or through an abrasion. It was possible to inoculate through a cut. A man might be inoculated during the stage of incubation and before the external indications appeared.

By Mr. Spencer: From the appearance of the first horse he saw the outward signs must have been there a week, and anyone conversant with horses would have noticed it. The first horse he saw at the railway arch was a very acute case, and the symptoms existed and were probably manifest on July 3rd. A horse might be glandered for some time without any visible signs or latent appearances. Several of the horses were inoculated with mallein and they answered to the test and were slaughtered. He thought Mr. Taylor took every reasonable care to keep his stable clean.

Dr. William Steer stated that he was medical superintendant at the Fulham Infirmary. Deceased was admitted on July 9th. His temperature was high, but not till the day before his death did he diagnose glanders. He did not see a cut on the head. There were no external signs of blood poisoning. On July 15th his forehead began to swell with pus underneath. On July 16 he was put under chloroform, and the forehead was incised and the matter let out. It was cellulitis and there were pustules showing under the skin. This was due to local infection, and not to any abrasion. On July 18 the temperature reached 106, and he was delirious. That day he diagnosed glanders. He came to that conclusion because he had heard a history of glanders at a stable and there was a crop of pustules—certainly not small-pox—on the forehead and pustules on the elbows and legs (inner side) with discharge from the nose. His colleagues were of the same opinion. Death took place on July 19th at 8 a.m. Witness made a post-mortem 34 hours after death. The body was well nourished, with no mark of injury except the mark of the recent operation. There was no sign of any previous injury. The brain was normal. There was pus under the scalp extending back from the incision made. There was no congestion of the meninges. The heart showed signs of syncope, and the pericardium was normal. Both lungs were congested, recent and passive. The mucous membranes of the air passages were congested and granular. Just beneath the pleura and in the surface of the lungs he found several caseous nodules and deposits—known as farcy buds. These were very characteristic of glanders. At the bend of the elbow and legs were farcy buds. The septum of the nose was also ulcerated. In the liver and spleen were also deposits. The stomach was normal and the kidneys congested. The bronchial and sub-maxillary glands were enlarged. Death was due to exhaustion consequent on pyæmia following glanders. He could not say the manner of innoculation. The appearance was from five to ten days after the inoculation. There was a fracture of the seventh rib but that was unconnected with the death, and the pyæmia was unconnected with that.

This being the whole of the evidence.

The jury returned a verdict that the death was due to exhaustion consequent on pyæmia following glanders conveyed to him by some horses in the stables in which he was employed; and that the cause of the said death was accidental but at the same time there was no evidence to show the exact introduction of the virus.

THE ROYAL VETERINARY COLLEGE.

The Duke of Cambridge took the chair, in his capacity as President, at the annual general meeting of the Governors and subscribers of the Royal Veterinary College, held in the Board room of the Institution. His Royal Highness, who was warmly received, moved the adoption of the report. He expressed the great pleasure it afforded him to be able to attend on the present occasion, but regretted that the financial position of the institution was not in so satisfactory a condition as he could wish. Although the income for the year had fallen short of the expenditure by the sum of £581, he was glad to hear that this state of things was in some measure compensated by the fact that the term of studentship had been increased, and in that way the College would reap a benefit. Having expressed the interest which he still felt and should always retain in the welfare of the institution, he said that it was unfortunate the College was not situated in close proximity to the West End, which would enable a large proportion of the subscribers to see the excellent work which was carried on within its walls. (Hear, hear.) That was a misfortune, however, from which they had long suffered, and they could only rely upon subscribers inducing their friends to support them. He wished the College every possible success, and he hoped they would have a better account to give of themselves financially when they next met. (Cheers.) Lord Calthorpe formally seconded the motion, which was unanimously agreed to. On the motion of Sir Nigel Kingscote, seconded by Professor Brown, Mr. Walter Long, M.P., Minister of Agriculture, Capt. Swithinbank, Lieut.-Col. Duck, C.B., and Mr. Romer Williams were elected Governors of the College. At the instance of General Sir F. FitzWygram, M.P., seconded by Lord Calthorpe, a hearty vote of thanks was accorded the Duke of Cambridge for his attendance and presiding, which his Royal Highness briefly acknowledged. A similar compliment having been paid to the Governing Body and the secretary, the proceedings closed.—*The Morning Post.*

CORRESPONDENCE.

PROFESSIONAL CONDUCT.

Sir,

My reply to your correspondents on the above subject will be as brief as possible. Dealing first with "Nemo" who has in several places attributed wrong meanings to many portions of my letter, I shall answer him *seriatim.*

1st. I never stated that "truth" can be insulting to anyone. But I questioned the veracity of what is quoted from *The Field re* shoeing forges, and I do so still. No doubt there are "black sheep" in every fold, but why blame a large number of practitioners for the acts of a few. And does "Nemo" think that making such accusations in the columns of a lay paper will tend to prevent such practices being carried on, or tend to raise the profession in public opinion?

2nd. Your correspondent accuses me of being a "pessimist" and states that I look at the worst side of the profession. I fail to see by what process of reasoning he draws this deduction, as in my letter I did not mention any "worst side," I simply stated facts and am prepared to stand by them; and I again say that these "grumblers" who are constantly accusing members of the profession of low contemptible practices, are by no means raising their calling nor exalting themselves.

3rd. I decline to agree with "Nemo" that advertising is either "above board, open, or honourable," or that "we all do it." The Council has very properly decided in the opposite direction.

4th. The experience of "Nemo" as regards those who "conduct business" on strictly honourable lines, is sad as well as unique. As I have yet to learn this experience I am sceptical on the point, but will not believe that successful veterinary surgeons gain their practice in the manner suggested by your correspondent.

As regards the criticism of Mr. Blakeway, I can assure him that the letter he mentions did not and could not, as he expresses it, "tread on my corns," because I am not guilty of any of the practices complained of therein. Indeed I do not think his insinuation is one that one gentlemen should make to another, but I treat it with the contempt it deserves. Few will accuse the Council of acting harshly *re* advertising, whether their efforts are directed against "specialists" or otherwise. We do not hear of "specialists" in human surgery advertising their skill.

As regards the fee for docking I may inform Mr. Blakeway that 10s. 6d. is the fee always charged by practitioners here. I cannot tell him the number of animals I perform this operation on without looking up the books, which I am too busy to do at present.—Yours, etc.,

E. WALLIS HOARE.

Cork, July 19th, 1897.

Dear Sir,

Many unpleasant facts in connection with our profession have been recorded in your journal of late, and most truthfully last week by "Nemo." It can hardly be denied that the more "tipping" the proprietor of a shoeing forge does, the more "better class" work he will have to do, and, indeed, so very many horseowners leave things entirely to their coachmen and grooms that unless these individuals are "treated well" there will very soon be "something wrong with the work." Of course this is not always the case, and it has been my good fortune to meet with many who make their masters' interests their own.

The docking question would never have become such a cause of anxiety to us if it had not been for the attitude taken in support of a wealthy society, by a man who was at one time generally respected, but who, if he is sincere in his expressed opinions would, I imagine, be also prepared to support that society in any attempts to prevent his less fortunate brethren from performing many common operations by which they now earn their living, and in order to acquire the right and a proper knowledge to perform they have spent years of their lives, and paid hundreds of pounds Now is the time for our representatives at the Council chamber to protect our interests by insisting that it should be a penal offence for any unqualified person to perform any operation whatever (causing pain) upon the lower animals. Why should a man be forced to possess a licence before he may perform experimental operations (vivisection) and another man be allowed to burn, cut, or blister under the sole excuse that he meant to do good?

That some wealthy societies give a preference to those who will always in court state the opinions desired, and that some officers of the Veterinary Department of the Board of Agriculture will put a "spoke in the wheel" of him who may happen to remind them of unpleasant truths, I am fully aware from experience, but that one or two members should be at variance with the whole profession upon matters of vital importance to our existence I cannot understand.—Yours truly.

THOS. A. HUBAND.

Cheltenham.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. E. W. Hoare, Jas. Lindsay, T. A. Huband, G. Mayall, H. Dyer, J. D. Pottie.